GLOSSARY

Acceleration:
Rate of change of velocity with time.

Artificial satellites:
Man made objects moving in fixed circular orbits around the Earth.

Atomic Physics:
The branch of Physics that deals with the study of the structure and properties of atoms.

Axis of rotation:
A straight line passing through the points of a rotating rigid body while the other points of the body move in circles about the axis.

Base quantity:
A quantity which can be expressed independently without the reference of any other quantity.

Base unit:
The units that describe base quantities.

Buoyant force:
The force acting on an object due to buoyancy of a liquid

Centre of gravity:
The point of a body where its weight acts.

Centre of mass:
A point where an applied force causes the system to move without rotation.

Centrifugal force:
Centripetal reaction.

Centripetal acceleration:
Acceleration produced by the centripetal force.

Centripetal force:
The force, which keeps an object to move in a circular path.

Circular motion:
Motion of a body along a circular path.

Coefficient of linear expansion:
Change in unit length caused by unit kelvin change in temperature.

Coefficient of volume expansion:
Change in unit volume caused by unit kelvin change in temperature.

Components of a force:
Such forces when added give the resultant force

Conduction:
Transfer of heat due to interaction of electrons or molecules

Convection:
Transfer of heat by actual movement of molecules from hot place to cold place.

Couple:
When two equal and unlike parallel forces act at different points of a body, they constitute a couple.

Deceleration:
Negative acceleration

Density:
Mass per unit volume

Derived quantity:
Such quantity, which is expressed with reference to base quantities

Derived units:
The units used to measure derived quantities

Displacement:
The shortest distance between two points.

Distance:
Length of a path between two points.

Dynamics:
Study of motion of bodies under the action of forces.

Efficiency:
Ratio of output and input.

Effort arm:
The intermediate distance between fulcrum and effort

Effort moment:
Product of effort and effort arm.

Effort:
Force applied on the machine.

Elastic potential energy:
Energy of a compressed or stretched spring.

Elasticity modulus:
Ratio of stress and strain.

Elasticity:
The property of the solids because of which they restore their original shape when external force ceases to act.

Electromagnetism:
The branch of Physics that deals with the study of the charges at rest and in motion, their effects and their relationship with magnetism.

Energy:
Ability of a body to do work.

Equilibrium:
A state where acceleration of a body is zero

Evaporation:
The changing of a liquid into vapours from the surface of the liquid without heating it.

Field force:
The gravitational pull of the Earth acting on the body whether the body is in contact with the Earth or not.

Force of gravitation:
The force due to which everybody of the universe attracts every other body

Force:
The agent that changes or tends to change the state of a body

Friction:

The force of resistance against the relative motion between two surfaces

Fulcrum:

The point around which lever revolves

Geophysics:

The branch of Physics that deals with the study of the internal structure of the Earth and tectonic plate motions etc

Gravitational acceleration:

Acceleration due to gravity of the Earth

Gravitational field strength:

The gravitational force per unit mass

Gravitational field:

The field in a region in space in which a particle would experience a gravitational force.

Gravitational force:

Mutual force of attraction between the objects.

Gravitational potential energy:

Energy of a body due to its position in the gravitational field.

Heat capacity:

The quantity of thermal energy absorbed by a body for increase in its temperature

Heat:

The branch of Physics that deals with the nature of heat, modes of transfer of heat and effects of hea

Heat:

The form of energy which is transferred from one place to another because of temperature difference.

Horizontal component:

The component of a force which is along horizontal or x-direction.

Inertia:

The characteristic of a body due to which it resists against any change in its state of rest or motion

Input:

A work, which is done on the machine

Internal energy:

The sum of K.E and P.E associated with the atoms, molecules and particles of a body

Isolated system:

A group of interacting bodies on which no force is acting.

Joule:

The amount of work done when a force of one newton displaces a body through one metre in the direction of force

Kilowatt-hour:

Work done in one hour at a rate of one kilowatt.

Kinematics:

Study of motion of bodies without taking into consideration the mass and forces.

Kinetic energy:

Energy of a body due to its motion

Kinetic friction:

Friction during motion.

Latent heat of fusion:

The quantity of heat required to change one kilogramme of a solid substance to liquid state during which its temperature remains constant.

Latent heat of vapourization:

The quantity of heat required to change the state of one kilogramme of a liquid to vapour or gaseous state during which its temperature remains constant.

Lever:

A strong bar revolving around some point.

Light year:

The unit of distance for celestial bodies equal to 9.46×10^{16} m.

Light:

The branch of Physics that deals with the physical aspects of light and its properties; working and uses of optical instruments.

Like parallel forces:

Forces acting along parallel lines in the same direction.

Limiting friction:

The maximum value of static friction.

Line of action of a force:

The line along which a force acts.

Linear motion:

The motion of a body along a straight line.

Load arm:

The intermediate distance between fulcrum and load.

Load moment:

Product of load and load arm.

Load:

Resistance or lifted up weight.

Mass:

The characteristic of a body, which determines the acceleration produced by the application of a force.

Mechanical advantage:

Ratio of load and effort.

Mechanics:

The branch of Physics that deals with the motion of objects, causes and effects of motion.

Moment arm:

The perpendicular distance between the axis of rotation and the line of action of the force.

Momentum:
The product of mass and velocity of a body.

Motion:
If a body changes its position with respect to its surroundings

Negative vector:
A vector which has the same magnitude but opposite direction of another vector.

Neutral equilibrium:
The condition of a body in which its centre of gravity neither rises nor becomes lower of its original position after being disturbed.

Nuclear physics:
The branch of Physics that deals with the properties and behaviour of nuclei and the particles within the nuclei.

Orbital velocity:
The critical velocity of a satellite in order to keep on moving around the Earth at a specific height.

Output:
A work, which is done by the machine.

Parallel force:
The forces which are parallel to each other

Perpendicular components:
The components of a force which are mutually perpendicular to each other.

Physical quantities:
All measureable quantities.

Physics:
The branch of Science, which explains the properties of matter and energy.

Plasma physics:
The branch of Physics that deals with the study of production, properties of the ionic state of matter - the fourth state of matter.

Position:
Location of a place or a point with respect to some reference point.

Potential energy:
The energy possessed by a body due to its position.

Power:
Rate of doing work.

Prefixes:
The words or letters added before a unit and stand for the multiples or submultiples of that unit.

Pressure:
The force acting normally per unit area.

Radiation:
Transfer of heat by infra red radiations requiring no medium for their transmission.

Random motion:
Motion without any consideration of time and direction.

Rate of flow of heat:
The amount of heat that flows in unit time.
Resolution of a force:
Splitting up of a force into its components.
Rest:
If a body does not change its position with respect to its surroundings.
Resultant force:
Such a force, which shows the combined effect of two or more forces.
Retardation:
Negative acceleration.
Rolling friction:
The friction produced during the motion of one body over the other with the help of wheels.
Rotatory motion:
The motion in which a body moves around an axis passing through it.
Scalar:
A Physical quantity which is completely described by its magnitude only.
Scientific method:
Logical applications of arguments that explain a certain phenomenon.
Scientific notation:
The numbers written as power or prefix of ten in which there is only one non-zero number before the decimal.
Significant figures:
In a measurement, the correctly known digits and the first doubtful digit.
Simple machine:
A thing, which helps in doing work more easily.
Sliding friction:
The friction between two surfaces sliding against each other.
Sound:
The branch of Physics that deals with the physical aspects of sound waves, their production, properties and applications.
Specific heat capacity:
The quantity of heat, which changes the temperature of one kilogramme mass by 1 K.
Speed:
Distance covered by a body in unit time.
Stability:
The property of a body which does not undergo any change without the application of an external agency
Stable equilibrium:
The condition of a body in which it comes to its original position after being disturbed.
Static friction:
The force of friction arising due to an applied external force before motion.
Strain:
The change in the shape of an object under the action of an external force.

Stress:
Force acting on unit area of an object.

Surface tension:
The force acting along the surface of a liquid.

Temperature:
The degree of hotness or coldness of a body.

Tensile strain:
Change in length per unit original length.

Tension:
The force acting along a string.

Thermal conductivity:
The rate of flow of heat across the opposite faces of a metre cube maintained at a temperature difference of 1 K.

Thermal equilibrium:
The property of a system when all parts of the system have the same temperature along with its surrounding.

Thermometer:
A device used to measure temperature.

Therometry:
Art of measurement of, temperature.

Torque: The capacity of a force to rotate a body.

Translatory motion:
The motion of a body when it moves along a line without rotation.

Trigonometric ratios:
The ratios of the sides of a right-angled triangle.

Uniform acceleration:
Equal changes in velocity in equal intervals of time.

Uniform speed:
Equal distances covered by a body in equal intervals of time.

Uniform velocity:
Equal changes in displacement in equal intervals of time.

Unlike parallel forces:
Forces that are parallel but have direction opposite to each other.

Unstable equilibrium:
The condition of a body in which it does not come to its original position after being disturbed.

Vector:
A physical quantity which is described completely by magnitude and direction.

Velocity: Rate of change of displacement

Vibratory motion:
Zig-zag motion of the molecules of gases and liquids.

Watt:
The power of a body if it does work at the rate of one joule per second

Weight: Force of gravitation acting on a body

Work: The product of force and displacement

Young's modulus: The ratio of stress to tensile strain.